Remarks

Claims 1-12 are pending in the application and the same are rejected. By this amendment, claims 13-15 are added. Accordingly, claims 1-12 remain in the application and are presented, along with new claims 13-15, for review and further consideration by the Examiner.

The Examiner has rejected claims 1, 3, 6, and 8-10 under 35 U.S.C. §102(b) as being anticipated by Hynecek, U.S. Patent No. 4,831,451. (Examiner's Action, page 2).

Applicant respectfully disagrees.

Hynecek discloses a horizontal scanner for an image sensor array. The image sensor array 12 is made up of transistor sensor elements 70. Each transistor sensor element 70 produces a voltage, not a charge, in response to incident light. (Hynecek, col. 6, lines 22-65 and col. 7, lines 28-40). Therefore, Hynecek does not disclose an array of cells for producing an electrical charge in response to photon stimulation.

In contrast, Applicant's independent claim 1 includes the wording, "an array of cells for producing an electrical charge in response to photon stimulation." Hynecek does not disclose that an electrical charge is produced, but rather a voltage signal is produced.

Additionally, the horizontal scanner 30 of Hynecek receives a voltage signal, not an electrical charge from the transistor sensor elements 70 of sensor array 12. The output of horizontal scanner 30 is additionally a voltage signal, not an electrical charge. (Hynecek, col. 7, line 14 - col. 8, line 7 and col. 10, lines 24-35). Therefore, Hynecek does not disclose a charge shift register configured to receive electrical charge and to sequentially output the electrical charge.

In contrast, Applicant's independent claims 1, 6, and 9 include the wording that a charge shift register receives an electrical charge and sequentially outputs the electrical charge. Hynecek discloses receiving and outputting a voltage signal.

Furthermore, the buffers 54, 56 of Hynecek are transistors 210, 216. A voltage signal from the reset transistor area 32 and the horizontal scanner 30 is impressed on the gates of the transistors 210, 216. No charge is accumulated by transistors 210, 216 that is readable as a voltage. (Hynecek, col. 10, lines 40-53). In fact, these transistors disclosed in Hynecek cannot accumulate charge as they are not constructed to do so. Therefore, the buffers 54, 56, and the transistors 210, 216 which comprise them are not charge sensing nodes for accumulating charge.

In contrast, Applicant's independent claims 1, 6, and 9 include the wording that at least two charge sensing nodes accumulate charge which is readable as a voltage. Hynecek does not disclose charge sensing nodes accumulating charge that is read as a voltage.

In addition, the reset transistor area 32 alternatively passes and suppresses voltage signals from sense lines 50, 52. Therefore, reset transistor area 32 is not a charge demultiplexor. (Hynecek, col. 10, lines 24-35).

In contrast, Applicant's independent claims 1, 6, and 9 include the wording that electrical charges from the array cells are output from to a charge demultiplexor and the charge demultiplexor distributes the cell charges. Since Hynecek operates with voltages rather than cell charges, Hynecek does not disclose a charge demultiplexor or any device for receiving charge from the array cells and distributing the cell charges.

Additionally, Hynecek does not disclose a charge sensing node summing an electrical charge from the cells. Voltage signals are passed along from the array sensors to the buffers. These voltage signals cannot be summed by the transistors 210, 216 disclosed by Hynecek.

In contrast, Applicant's new dependent claims 13-15 include the wording that a charge sensing node sums an electrical charge from at least two of the cells. The buffers disclosed by Hynecek are configured to function with voltage

signals rather than charge. These buffers are merely transistors that pass a voltage signal related to the voltage signal impressed on their gates. These transistors are not capable of summing electrical charges.

The Examiner has rejected claims 2, 5, 7, and 12 under 35 U.S.C. §103(a) as being unpatentable over Hynecek. (Examiner's Action, page 5).

Applicant respectfully disagrees.

The Examiner has rejected claims 4 and 11 under 35 U.S.C. §103(a) as being unpatentable over Hynecek in view of Tanji, U.S. Patent No. 5,883,667. (Examiner's Action, page 6).

Applicant respectfully disagrees.

In view of Applicant's arguments and amendments with respect to independent claims 1, 6, and 9 being allowable, Applicant respectfully submits that the remaining dependent claims are also allowable because they contain all of the limitations of their respective independent claims and further add structural and functional limitations.

The foregoing amendments and arguments are believed to be a complete response to the most recent Examiner's Action.

No new matter has been added.

It is respectfully submitted that there is no claim, teaching, motivation, or suggestion in any of the prior art cited, alone or in combination, to produce what Applicant claims.

It is further submitted that the application, as amended, defines patentable subject matter and that the claims are in a condition for allowance. Such allowance at an early date is respectfully requested.

Should any issues remain which would preclude the prompt disposition of this case, it is requested that the Examiner contact the undersigned practitioner by telephone.

Respectfully submitted,
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By _____
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